

**SHIFT TO
SPEED**



SPEEDBEND SERIES
Synchronized Hydraulic Press Brake

VERMAKSAN

www.ermaksan.com.tr

05.09.2011, English / Ermaksan Machine Inc. Tr. Comp. reserves the right to make amendments on the products and technical details shown in the catalogue without prior notice.

ERMAKSAN

Organize Sanayi Bölgesi Lacivert Cad. No:6 Nilüfer-Bursa / TURKEY
Phone: +90 224 294 75 00 (pbx) Fax: +90 224 294 75 44 e-mail: sales@ermaksan.com.tr



28.000

Machining capacity of 28.000 mm single part



3.000

3.000 machines manufactured annually



80.000 sqm

Largest manufacturing facility
under one roof in Europe
in its sector



Ermaksan is well known for productive and result oriented research & development activities as well as affordable high-tech products in fabricating industry. With 46 years of manufacturing experience behind Ermaksan is a strong company which continuously invests on technology and increases productivity.

Ermaksan manufactures 3000 machines annually with 700 qualified staff in a fully modernized 80.000 sqm factory equipped with state-of art machinery. Ermaksan exports 80% of its production through agents under the brand Ermak from Canada to New Zealand, more than 70 countries in the world and provides full technical support since 1965.

By purchasing Ermak machines, you will be investing on your future. With this decision, we are promising to deliver the machine that will suit your needs and provide the best purchasing experience by means of price, delivery, quality, training and after-sales technical support.

ERMAKSAN
SHEET METAL WORKING MACHINERY





ERMAK **SPEED-BEND**

125





SHEETO SPEED

SPEEDBEND SERIES

Synchronized Hydraulic Press Brake

Production times are the most important profit issues of enterprises. Speed-Bend series is designed to enable speed and high quality production capability in order to decrease time unit costs in a competitive environment.

Your new future trend...

SPEEDBEND TANDEM SERIES

Synchronized Hydraulic Press Brake



fast. strong



Speedbend Tandem 7520 x 350 ton

Explore

High operating speed

Polished chrome-plated & grinded pistons

17" 3D LCD touch screen
ER90 (standard)

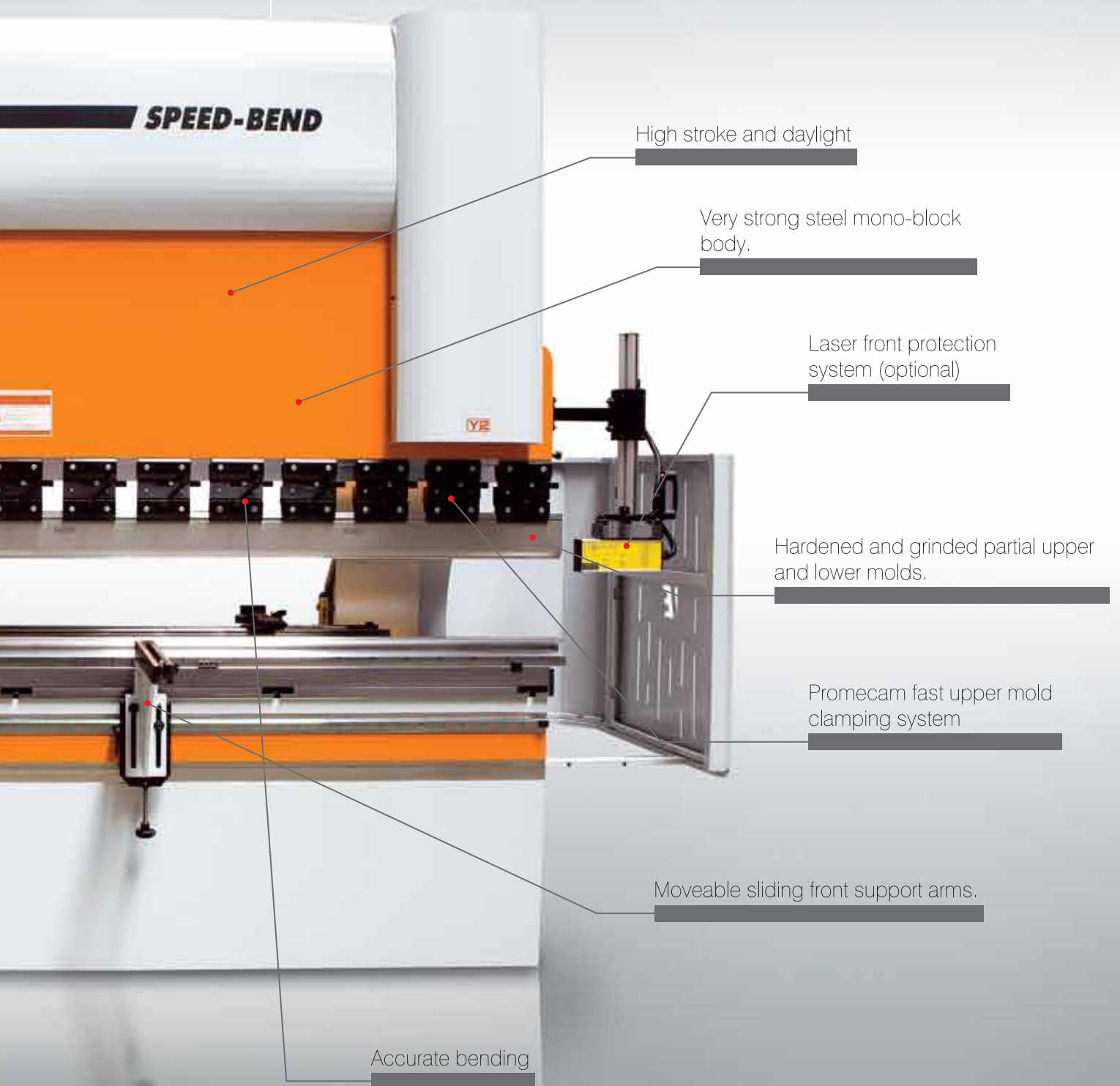
CNC controlled motorized crowning
(standard)

Double foot pedal

2 axis servo-motor driven back
gauge system (standard)



Speed Bend



Extreme production with high performance in less time...

↓ **“High-speed free fall”**

→ **“High pressing speed”**

↑ **“High returning speed”**

Free-fall, bending and return speeds of Speed Bend series press brakes are increased according to the needs of today. The Speed Bend series offer 2 times faster production capacity compared to conventional CNC press brakes.

While increasing the speed, engineers of Ermaksan R & D did not forget to apply a long stroke and beam opening(day light) features for users. Furthermore, the top beam motion distance and beam opening was increased in Speed Bend series. In this way, deep bendings can be done through longer tools, parts can be easily taken out from front of the machine and long Z-type parts can be bended by usage of high sub-tools which are provided as standard.



Servo motorized back gauge X + R (standard)

CNC back gauges produced and designed by Ermaksan work very fast and accurate. The strong construction ensures an efficient operation of the mechanism for long years. The system is moving on servo motor driven ball screw shafts and on linear bearings with an accuracy of 0.01.

Z1 + Z2 + X1 + X2 + R1 + R2 and axis are given as optional.





“Standard

General Specifications

- Windows-style operating system.
- 2D and 3D programming.
- 3-D drawing feature.
- 2D DXF import feature.
- Automatic bending sequence search and collision control.
- 17" LCD touch-screen that facilitates sights of machine body, mould, back gauge, side protection guards, and components.
- Changeable color display unit (buttons, machine color, background color, color patterns, the background).
- Multi-functional alpha numeric keyboard.
- External attachment possibility of keyboard and mouse.
- Angle measurement and control through IMG 100 system.
- Enabling Tandem type operational application.
- Dynamic crowning.
- Remote access.
- Application of Digital protractor.
- Motorized front-support system.
- Configuration that can be made up to 16 axes.
- Error message display.
- Inch / mm, t / ustons unit alterations.

EQUIPMENT SPECIFICATIONS:

- CPU card: Standard ETX module, Pentium M1.1 GHz, 512 MB DDR RAM
- Monitor: Color LCD 17 "SVGA, touch screen
- HDD: 80 GB (200.000 programs and mould loading)
- Serial Ports: COM1: RS232, COM2: RS422/RS232
- USB: 3 pieces 2.0
- NetKart: along with TCP / IP protocol, 10-100 based Ethernet.
- Wi-Fi wireless network connection.
- VGA display output.

ERMAK CAD/CAM Bending simulation software:

- For Ermaksan press brakes CAD / CAM sheet metal bending simulation.ER90 PC (Windows98SE / ME / NT4 / 2000 / XP)
- Language Options: Turkish, Czech, Dutch, French, German, Italian, Japanese, Polish, Portuguese, Russian, Spanish, Finnish, Chinese.

- Ability to work with many measurement systems.
- Contextual online support
- Material management

Configuration program:

EBS (Ermak Bending Simulator) Optional:

- 3D DXF parts loading
- IGES / STEP, metal designer solid model loading
- Automatic mould selection according to part characteristics
- Management partly tools
- Archive of parts and tools
- Default installation or registration of the mould
- Advanced manual machine mould functions
- Display of measurements during part opening simulation

Controllers”

ERMAK ER90

3D Bending Simulation





“Standard

Delem DA-66W

General Specifications

- Windows operating system
- Stable operation
- 3D simulation of bending before application
- Standart onboard network connection
- Storing the bending programs in sub-directories
- Special application user support
- 10,4" high-resolution LCD coloured screen (16bit 640x480 piksel)
- 200 MHz processor
- 256 Mb RAM
- 4 Mb product set memory
- 7 digit program number capacity
- Alpha-numerik 20 digit drawing number capacity
- Max. 9999 program repeat
- 25 step in a program (sequence)
- Max. 99 step repeat
- mm/inch – TON/KN translate
- Ekstra USB keypad and USB Mouse connection
- Error messages
- PLC function (Sequancer)
- Machine time and stroke count
- Working in tandem
- Delem modular compatibility
- Motorized front support system
- Laser angle measurement
- Dynamik crowning

Controllers”

Cybelec ModEva 12S



General Specifications

- Windows XP operating system
- Large-key keyboard (mechanical movement) and integrated track sensor
- 6 topics-sensitive function keys
- TFT 12" high-resolution colour display
- 1GB memory
- Integrated 3,5" floppy-disk (optional CD-ROM, LS 120, or others)
- Printer output and 2 x RS232 ports
- Error messages
- Standard PC 1200 computer simulation programme
- Ethernet RJ45 and 2 x USB ports
- VGA display output
- Change Inch/mm, TON/TONS, etc..
- Speed, stop time and top plate measurement leaking
- CE safety loops management
- Security and interactive broadcasting of usual posts
- Can be configured up to 16 axes
- Laser angle measurement
- Motorized front support system
- Tandem working
- Dynamik crowning
- Integrated Mouse

shift to speed

Why Speed Bend?

- ▶ **High bending speed.**
- ▶ **High bending accuracy.**
- ▶ **High bending capacity.**

If you are looking for speed ,versatility and high efficiency, so Speed Bend press brakes series is the right choice.



speed bend



Standard Equipments

- Mono block, welded steel frame rigid to deflection and high tensile with ST44 A1 material.
 - 4 axes (Y1, Y2, X and R)
 - Back gauge system with X+R axis driven by AC servo with colored graphics.
 - Standard graphic controllers can be selected from: ER-90 3D color graphical touch screen controller with offline software, Cybelec Mod Eva 12 S 3D color graphics with PC 1200 offline software, Delem DA66W 2D with colored graphics.
 - HOERBIGER servo hydraulic system.
 - CNC controlled motorized anti-deflection system.
 - Electrical panel with cooling system designed to meet CE standards and composed of automation and electrical equipments with SIEMENS brand.
 - Hardened and ground standard sectioned top and 4V-Die bottom tools (835 mm section).
 - Easy to clamp tool holding system with upper and lower tools.
 - Ergonomic user friendly, pendant control panel.
 - Back light safety guards (category-4)
 - Front side covers with safety switches.
 - Synchronization of Y1 + Y2 axis provided by linear encoders with 0,01 tolerances.
 - Foot pedal conforming to CE regulation.
 - Sliding front support arms with T slot and mm/inch rulers.
 - Throat depth 410 mm.
- 



Optional Equipments

- Graphical controllers; Cybelec ModEva 15S 3D with PC 1200 offline software, Delem 69W 3D graphical color controller.
- Z1+Z2 axis
- X1+X2 axis
- R1+R2 axis
- SICK C4000 advanced finger protections 14 mm (easy programable sick soft with PC; Blanking. Reduced resolution, cascade working etc), (category-4)
- Laser protection system for die area, LASERSAFE PCSS, AKAS LASER SAFETY IILC2000, AKAS LASER SAFETY IILC2000 (MOTORIZED), sick V 4000 (camera based system), DSP photo electric laser safety.
- Laser angle measurement system, with LASERSAFE IMG 100 or Data-M cobra Laser check system.
- Hydraulic and dynamic-Hydraulic anti-deflection (crowning) features.
- ERMAK Pneumatic top tool clamping system.
- Hydraulic top and bottom tool clamping system.
- CNC controlled bending aids (AP3+Ap4 axis).
- Hydraulic oil coolant and oil heaters.
- Automatic central lubrication system.
- Special throat depth (500,600,750 mm and above).
- Special top and bottom tools.
- Software options EBS ERMAK bending system software for ER-90, Cybelec PC1200, Cybelec CYCAD 2D DXF conversion, Delem V-Bend / V-DXF / V-Draw, Delem profile W2D/W3D.
- Tandem applications
- Tool cabinets

Safety Systems



Fiessler Akas III 2000 Protection System (O)



DSP Laser Protection System (O)



Laser Safe (O)
Laser safe that is produced specifically for press brakes that is the leader among safety systems. Laser safe keeps the operator's safety at the top level.



SICK Light Barrier (O)



SICK V4000 Safety System (O)



IMG 100 (O)
For precision bending, it offers operator safety as well as measuring the bending angle and correction features.

Top Tool Clamping Systems



Promecam Top Tool Clamping System (S)
Top tool clamping system which provides quick tool change.



Pneumatic Tool Clamping System (O)
Pneumatic tool clamping systems press and center the tools automatically with the help of the pressurized air. These are perfect solutions to shorten the setup timing and for automated press brakes.



Hydraulic Tool Clamping System (O)
Hydraulic tool clamping systems clamp, correct and center the tools, with the help of the hydraulic automatically without need for air. These are perfect solutions to shorten the setup timing and for automated press brakes.



Wila Tool Clamping System (O)

Tool Clamping Systems



Rol-1

Thanks to the patented, ball-bearing upper tools, the tools can be directly fitted and dismantled vertically. ROL-1 tool clamping system eliminates the excessive setup time while sliding and taking the tool out.



Rol-1 PN (Pneumatic)

Pneumatic tool clamping systems clamps and centers the tools automatically with the help of the air. These are perfect solutions to shorten the start-up timing and for automated press brakes.



Rol-1 KDS

Double-sided ROL-1 is a tool clamping system. It also allows reversed tools to be use.



Rol-5 System

ROL-5 system is the best quick tool change solution for generic European style tools.



Bottom Tool Clamping and Crowning Systems



Multi-V Bottom Tool (O)
Multi V or U type adjustable tools



Hydraulic Bottom Tool Clamping System (O)



CNC Motorised Crowning System (S)
CNC crowning system that communicates with the CNC controller, performs crowning automatically and enables the part to be at even bending angle at any given point.



Wila Bottom Tool Clamping System (O)



Wila Hydraulic Tool Clamping Systems (O)

Other Equipments



Throat (O)

Special throat depths are offered up to 1500 mm for large bendings.



Sliding Front Support Arms (S)



4 Axes Backgauge With Servo Motor (O)

2 axes (X+R)

3 axes (X1 + X2 + R)

4 axes (X + R + Z1 + Z2)

6 axes (X1 + X2 + R1 + R2 + Z1 + Z2) rapid and precise back support systems with servo motor. They enable you to increase the production performance and quality.



Tool Storing Cabinet (O)

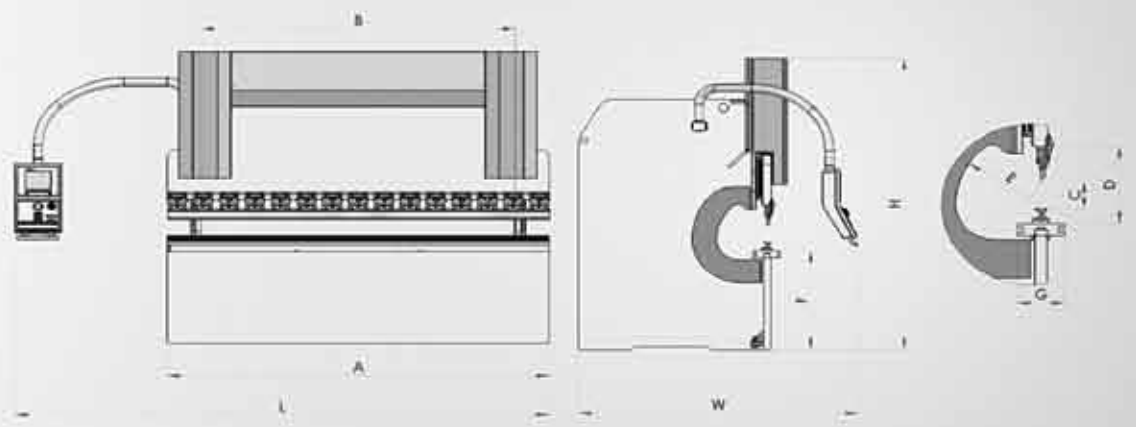
SPEEDBEND SERIES

Synchronized Hydraulic Press Brake

Technical Details

TYPE	Bending Length	Bending Power	Distance Between Columns	Y Rapid Speed	Y Working Speed *	Y Return Speed	Crowning	Travel in X Axis	Speed of X Axis	Travel of R Axis	Speed of R Axis	Backgauge Finger Blocks	Number of sheet Support
	A	B											
	mm	Ton	mm	mm/s	mm/s	mm/s	Standard	mm	mm/s	mm	mm/s	Amount	Amount
SB 1270 - 40	1270	40	1050	140	17	170	-	500	500	250	350	2	2
SB 1270 - 60	1270	60	1000	200	14	165	-	500	500	250	350	2	2
SB 2100 - 40	2100	40	1700	140	17	170	Motorized	500	500	250	350	2	2
SB 2100 - 60	2100	60	1700	200	14	165	Motorized	500	500	250	350	2	2
SB 2600 - 60	2600	60	2200	200	14	165	Motorized	500	500	250	350	2	2
SB 2600 - 100	2600	100	2200	200	12	190	Motorized	800	500	250	350	2	2
SB 2600 - 135	2600	135	2200	160	12	190	Motorized	800	500	250	350	2	2
SB 3100 - 100	3100	100	2600	200	12	190	Motorized	800	500	250	350	2	2
SB 3100 - 135	3100	135	2600	200	12	190	Motorized	800	500	250	350	2	2
SB 3100 - 175	3100	175	2600	180	12	190	Motorized	800	500	250	350	2	2
SB 3100 - 220	3100	220	2600	180	10	185	Motorized	800	500	250	350	2	2
SB 3100 - 260	3100	260	2600	140	11	135	Motorized	800	500	250	350	2	2
SB 3100 - 320	3100	320	2600	140	11	150	Motorized	800	500	250	350	2	2
SB 3100 - 400	3100	400	2550	110	8	130	Motorized	800	500	250	350	2	2
SB 3100 - 500	3100	500	2450	80	7	65	Motorized	800	500	250	350	2	2
SB 3760 - 175	3760	175	3250	180	12	190	Motorized	800	500	250	350	2	2
SB 3760 - 220	3760	220	3250	180	10	185	Motorized	800	500	250	350	2	2
SB 3760 - 320	3760	320	3250	140	11	150	Motorized	800	500	250	350	2	2
SB 4100 - 135	4100	135	3600	200	12	190	Motorized	800	500	250	350	2	2
SB 4100 - 175	4100	175	3600	180	12	190	Motorized	800	500	250	350	2	2
SB 4100 - 220	4100	220	3600	180	10	185	Motorized	800	500	250	350	2	2
SB 4100 - 260	4100	260	3600	140	11	135	Motorized	800	500	250	350	2	2
SB 4100 - 320	4100	320	3600	140	11	150	Motorized	800	500	250	350	2	2
SB 4100 - 400	4100	400	3550	110	8	130	Motorized	800	500	250	350	2	2
SB 4100 - 500	4100	500	3400	80	7	65	Motorized	800	500	250	350	2	2
SB 4100 - 600	4100	600	3400	80	8	75	Motorized	800	500	250	350	2	2
SB 4100 - 1250	4100	1250	3000	70	6	80	Motorized	1000	500	250	350	2	2
SB 4100 - 1500	4100	1500	2900	70	6	80	Motorized	1000	500	250	350	2	2
SB 4270 - 135	4270	135	3780	200	12	190	Motorized	800	500	250	350	2	2
SB 4270 - 220	4270	220	3780	180	10	185	Motorized	800	500	250	350	2	2
SB 4270 - 400	4270	400	3780	110	8	130	Motorized	800	500	250	350	2	2
SB 4270 - 600	4270	600	3600	80	8	75	Motorized	800	500	250	350	2	2
SB 6100 - 220	6100	220	5100	130	11	125	Motorized	800	500	250	350	4	4
SB 6100 - 320	6100	320	5100	80	11	75	Motorized	800	500	250	350	4	4
SB 6100 - 400	6100	400	5100	80	8	65	Motorized	800	500	250	350	4	4
SB 6100 - 500	6100	500	5100	80	7	65	Motorized	800	500	250	350	4	4
SB 6100 - 600	6100	600	5100	80	8	75	Motorized	800	500	250	350	4	4
SB 6100 - 800	6100	800	5100	80	6	65	Motorized	1000	500	250	350	4	4
SB 6100 - 1000	6100	1000	5100	70	6	50	Motorized	1000	500	250	350	4	4
SB 6100 - 1250	6100	1250	5000	70	6	55	Motorized	1000	500	250	350	4	4
SB 6100 - 1500	6100	1500	4900	70	6	55	Motorized	1000	500	250	350	4	4

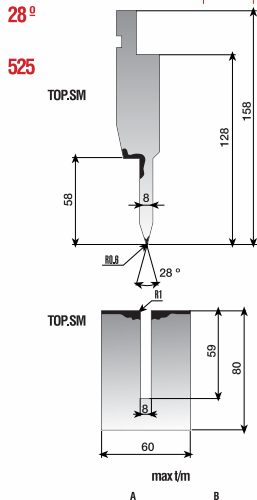
* Working speed should be max. 10 mm / sec. at CE certified machines according to the EN12622 norm.



Oil Capacity	Motor Power	Stroke	Daylight	Throat Depth	Table Height	Table Width	Length	Height	Width	Weight	optional		
											Speed of Travel X1, X2 Axis	Speed of Travel R1, R2 Axis	Speed of Travel Z1, Z2 Axis
lt.	kW	C	D	E	F	G	L	H	W	kg.	mm/s	mm/s	mm/s
80	6	170	387	350	850	90	2150	2300	1650	3200	500	350	1000
150	8	275	530	410	900	90	2250	2750	1960	4300	500	350	1000
80	6	170	387	350	850	90	2900	2300	1650	4100	500	350	1000
150	8	275	530	410	900	90	3250	2750	1960	5800	500	350	1000
150	8	275	530	410	900	90	3750	2750	1960	6200	500	350	1000
200	11	275	530	410	900	90	3750	2800	1950	7000	500	350	1000
300	15	275	550	410	900	90	3750	2800	2050	8400	500	350	1000
200	11	275	530	410	900	90	4250	2800	1950	7600	500	350	1000
300	15	275	550	410	900	90	4250	2800	2050	8800	500	350	1000
300	15	275	550	410	900	90	4250	2800	2150	9600	500	350	1000
300	19	275	550	410	900	200	4550	2850	2250	11700	500	350	1000
300	22	275	550	410	900	220	4550	2900	2350	15200	500	350	1000
400	30	375	650	410	900	240	4550	3200	2450	17500	500	350	1000
400	30	375	650	510	1000	240	4550	3470	2650	21500	500	350	1000
500	30	375	675	510	1020	240	4900	3750	2650	27700	500	350	1000
300	15	275	550	410	900	90	4900	2800	2150	11100	500	350	1000
300	19	275	550	410	900	160	5100	2900	2250	12800	500	350	1000
400	30	375	650	410	900	220	5100	3150	2450	20800	500	350	1000
300	15	275	550	410	900	90	5100	2800	2100	10800	500	350	1000
300	15	275	550	410	900	90	5100	2850	2150	12100	500	350	1000
300	19	275	550	410	900	160	5150	3000	2250	14000	500	350	1000
300	22	275	550	410	900	200	5150	3000	2350	16900	500	350	1000
400	30	375	650	410	900	220	5350	3150	2450	22600	500	350	1000
400	30	375	650	510	1000	240	5450	3470	2650	27000	500	350	1000
500	30	375	675	510	1100	240	5450	3850	2650	32500	500	350	1000
500	37	375	675	510	900	240	5900	3650	2650	38000	500	350	1000
1200	55	510	1000	610	800	440	5900	4600	3300	77670	500	350	1000
1500	75	610	1100	610	800	480	5900	5000	3700	92070	500	350	1000
300	15	275	550	410	900	90	5280	2800	2150	11100	500	350	1000
300	19	275	550	410	900	160	5320	3000	2250	14800	500	350	1000
400	30	375	650	510	1000	240	5600	3470	2650	27300	500	350	1000
500	37	375	675	510	900	240	6100	3700	2650	39600	500	350	1000
300	19	275	550	410	1100	180	7500	3200	2350	26000	500	350	1000
400	30	375	650	410	1100	180	7500	3350	2450	32000	500	350	1000
400	30	375	650	510	1100	200	7650	3750	2650	40600	500	350	1000
500	30	375	675	510	900	240	7900	3700	2650	44000	500	350	1000
500	37	375	675	510	900	240	7900	3900	2650	50000	500	350	1000
800	37	410	710	610	900	240	7900	4100	3050	63000	500	350	1000
1000	45	510	900	610	800	340	7900	4350	3250	72320	500	350	1000
1200	55	510	1000	610	800	380	7900	4800	3400	93720	500	350	1000
1500	75	610	1100	610	800	400	7900	5000	3700	106630	500	350	1000

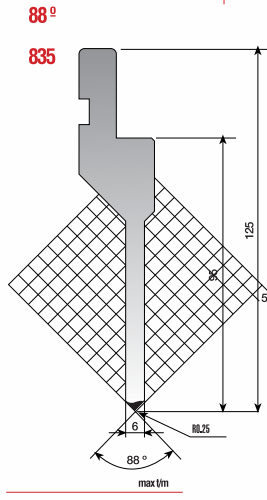
Special Top and Bottom Tools

TOP.S 42Cr



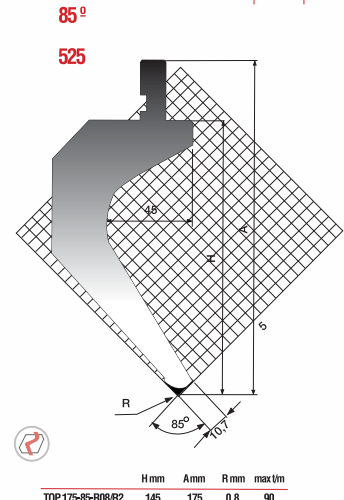
	A	B
TOP.S-134.28.8		
TOP.S-134.28.8	80	100
TOP.S.M-134.28.8	50	100

P.125-88-R025 42Cr



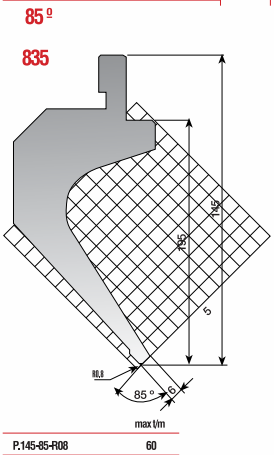
	max t/m
P.125-88-R025	50

TOP.175-85-R08/R2 42Cr



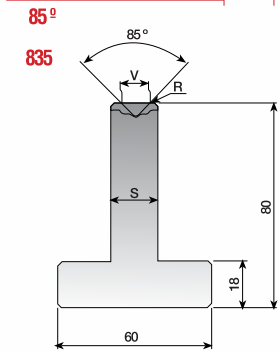
	H mm	A mm	R mm	max t/m
TOP.175-85-R08/R2	145	175	0,8	90
TOP.175-85-R2	144,3	174,3	2	90

P.145-85-R08 42Cr



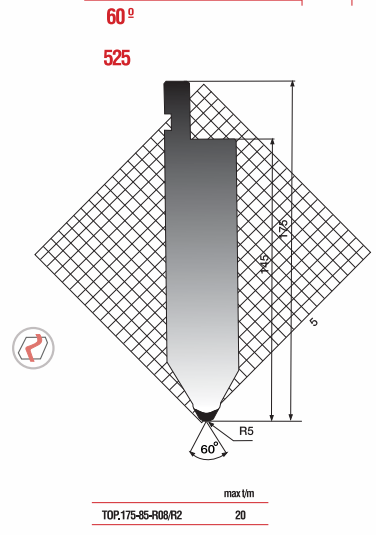
	max t/m
P.145-85-R08	60

T80-06-85 ÷ T80-25-85 C45



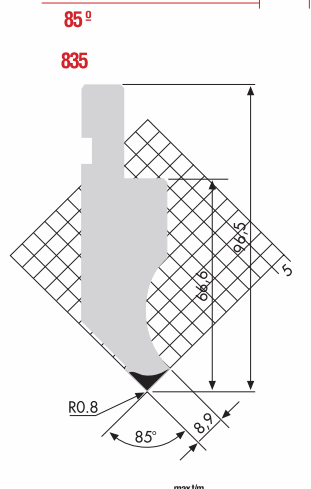
	V mm	R mm	S mm	max t/m
T80-06-85	6	2,75	14	100
T80-08-85	8	2,75	14	100
T80-10-85	10	2,75	18	100
T80-12-85	12	2,75	18	100
T80-16-85	16	2,75	24	100
T80-20-85	20	3	30	100
T80-25-85	25	3	35	100

TOP.175-60-R5 C45



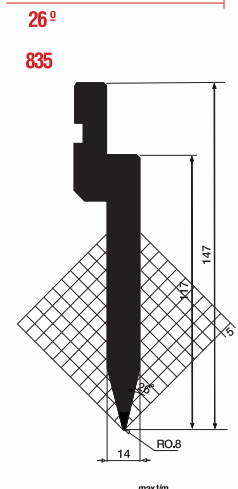
	max t/m
TOP.175-85-R08/R2	20

P.97-85-R08 C45



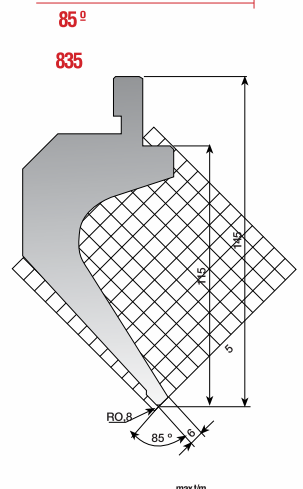
	max t/m
P.97-85-R08	100

PU.117-26-R08 C45



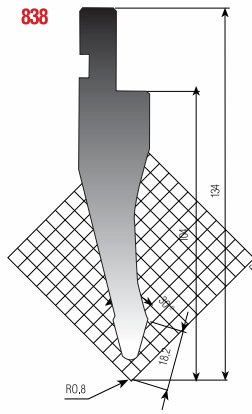
	max t/m
PU.117-26-R08	100

P.145-85-R08 42Cr



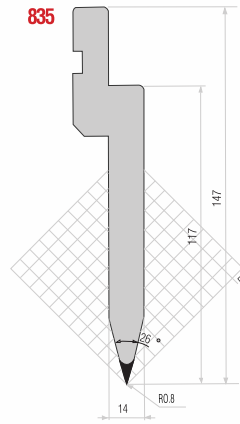
	max t/m
P.145-85-R08	60

P.134-30-R08 | C45 |
30°



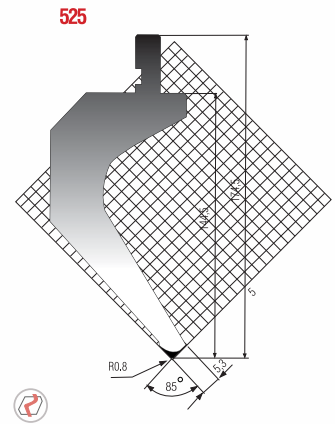
max t/m
P.134-30-R08 70

PU.117-26-R08 | C45 |
26°



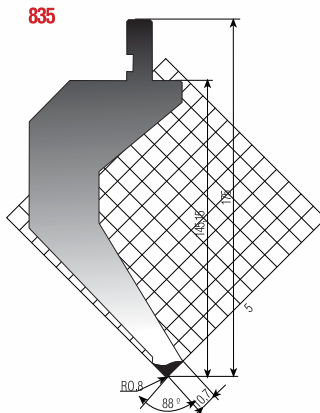
max t/m
PU.117-26-R08 100

TOP.175-85-R08/S | 42Cr |
85°



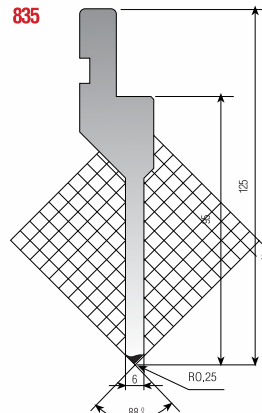
max t/m
TOP.175-85-R08/R2 20

P.175-88-R05 | 42Cr |
85°



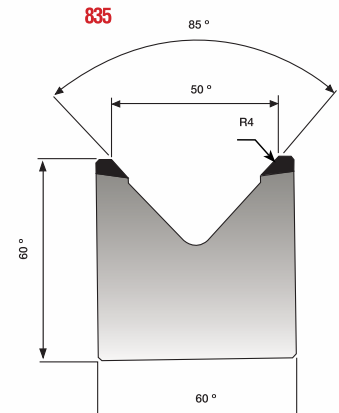
max t/m
P.175-88-R05 50

P.125-88-R025 | 42Cr |
85°



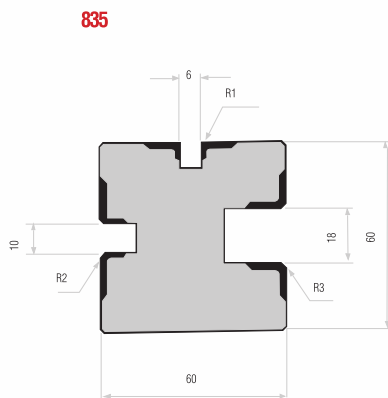
max t/m
P.125-88-R025 100

M.60-85-50 | C45 |
85°



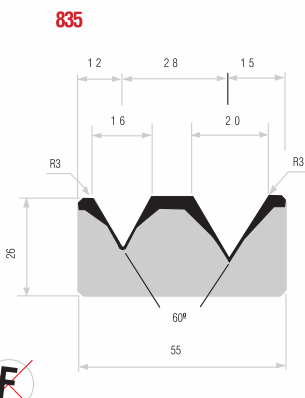
max t/m
M.60-85-50 100

M460 | C45 |



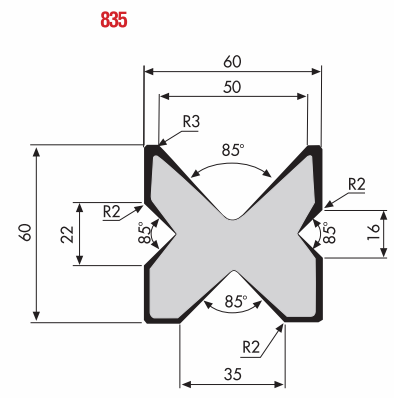
max t/m
M460 80

P.125-88-R025 | C45 |
60°



max t/m
M26-60-05 80

M460-R | C45 |
85°

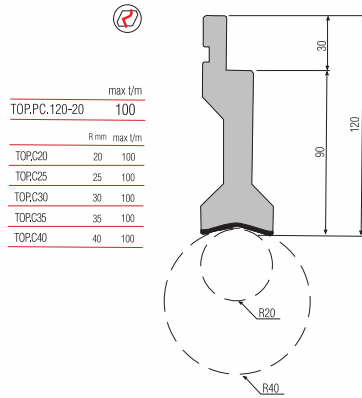


max t/m
M460-R 80

Special Top and Bottom Tools

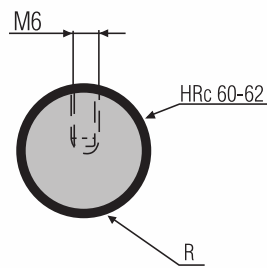
TOP.PC.120-20 | 42Cr

522



TOP.C08 ÷ TOP.C40 | C45

525

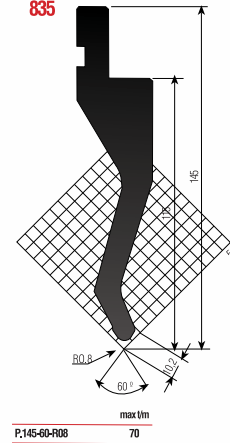


R mm	max U/m
TOP.C08	8 100
TOP.C10	10 100
TOP.C12.5	12.5 100
TOP.C15	15 100
TOP.C17.5	17.5 100

P.145-60-R08 | 42Cr

60°

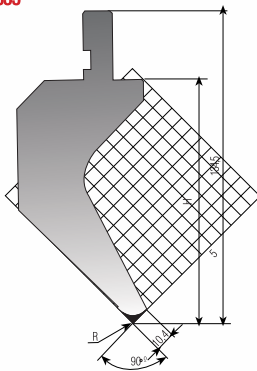
835



P.135-90-R08 PK.135-90-R025 | C45

90°

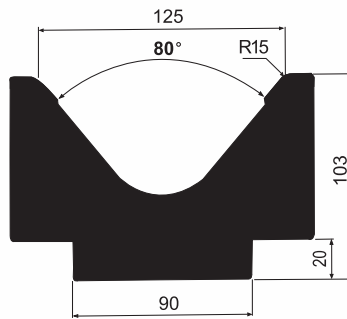
835



M103-80-125 | C45

80°

835

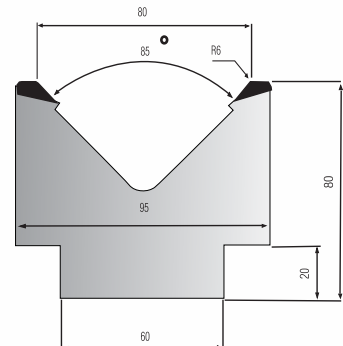


max U/m	
M103-80-125	100

M80-85-85 | C45

85°

835

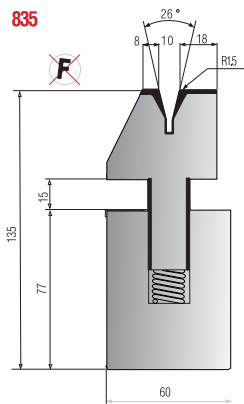


max U/m	
M80-85-80	100

S135-26-10 | C45

26°

835

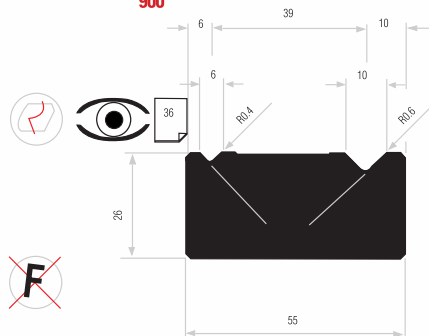


M26-90-01 | C45

90°

835

900

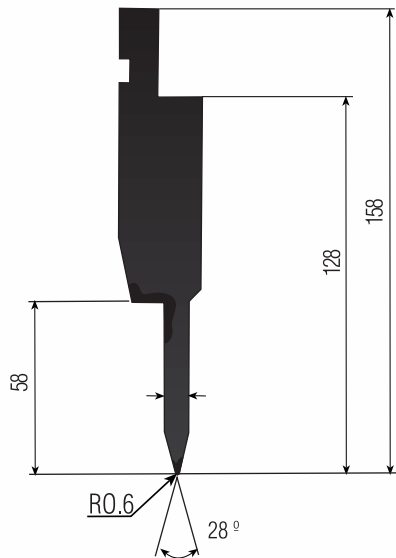


max U/m	
M26-90-01	100

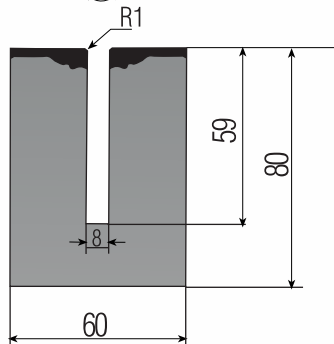
TOP.S (TOP.SP+TOP.SM) 42Cr

28°

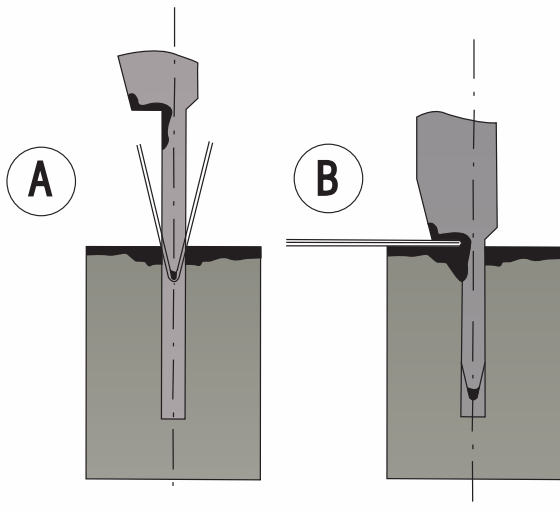
525



TOP.SM



	max t/m	
	A	B
TOP.S-134.28.8		
TOP.SP-134.28.8	80	100
TOP.SM-134.28.8	50	100

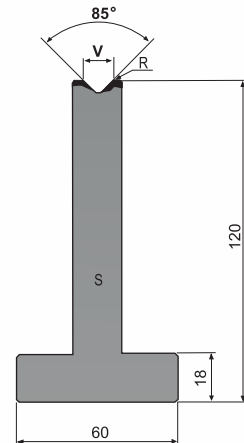


T120-06-85 ÷ T120-25-85 C45

85°

835

	V mm	R mm	S mm	max t/m
⊗ T120-06-85	6	2,75	14	100
⊗ T120-08-85	8	2,75	14	100
⊗ T120-10-85	10	2,75	18	100
⊗ T120-12-85	12	2,75	18	100
⊗ T120-16-85	16	2,75	24	100
⊗ T120-20-85	20	3	30	100
⊗ T120-25-85	25	3	35	100

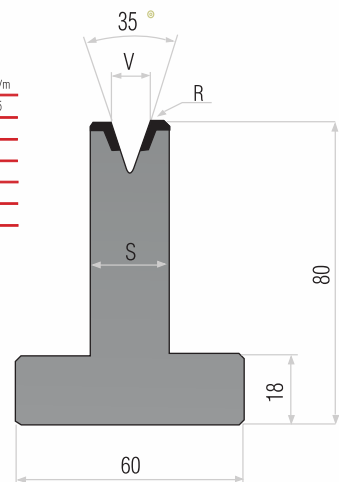


T80-06-35 ÷ T80-25-35 C45

35°

835

	V mm	R mm	S mm	max t/m
T80 06-35	6	0,8	14	35
T80 06-35	8	1	16	35
T80 10-35	10	1,2	20	40
T80 12-35	12	1,6	22	40
T80 16-35	16	3	30	45
T80 20-35	20	3	35	50
T80 25-35	25	3	40	50



T120-06-35 ÷ T120-25-35 C45

85°

835

	V mm	R mm	S mm	max t/m
T120-06-35	6	0,8	14	35
T120-08-35	8	1	16	35
T120-10-35	10	1,2	20	40
T120-12-35	12	1,6	22	40
T120-16-35	16	3	30	45
T120-20-35	20	3	35	50
T120-25-35	25	3	40	50

